



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



LONG BEACH QUADRANGLE
CALIFORNIA - LOS ANGELES COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
National Center for Earthquake Information Service
1220 National Center
Reston, VA 20192
703/648-7200
www.usgs.gov



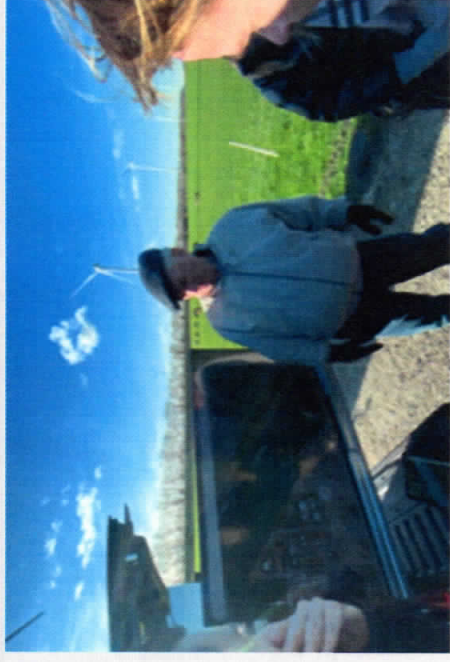
LONG BEACH, CA
2021



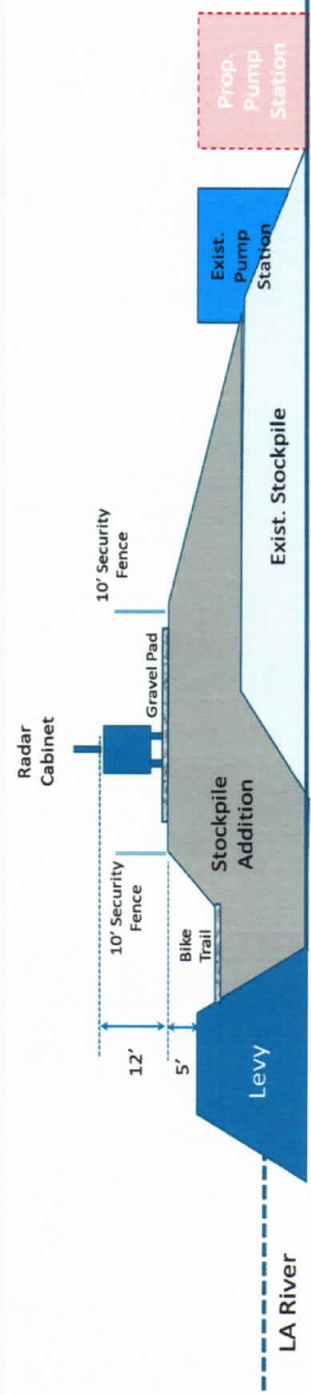
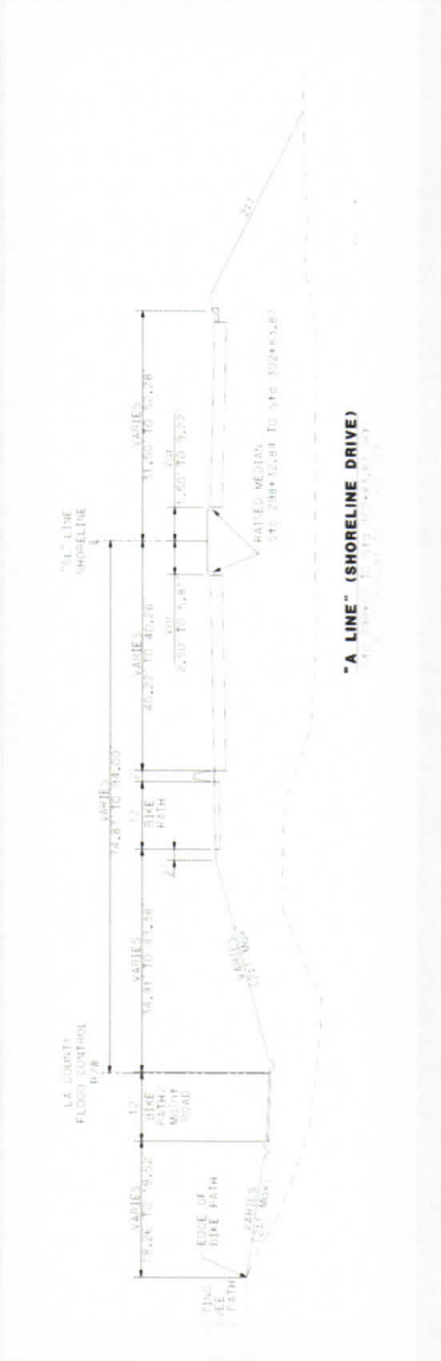
Avian Radar - Site Plan Study Area



Sample Radar Installation



Avian Radar - Site Concept Section

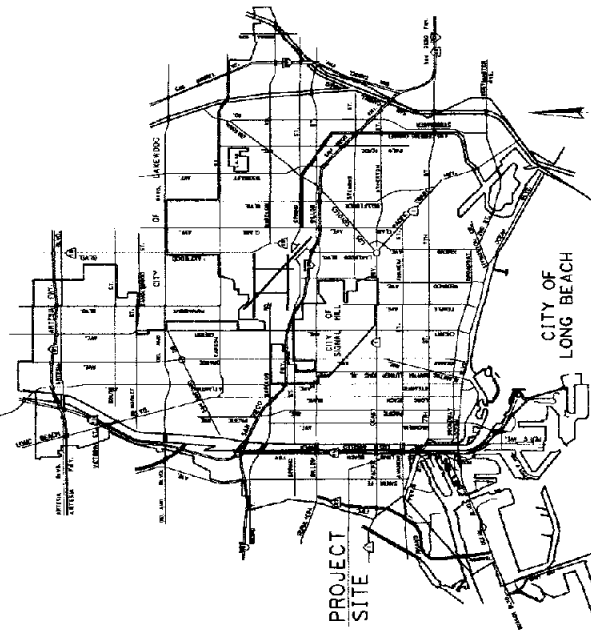


City of Long Beach

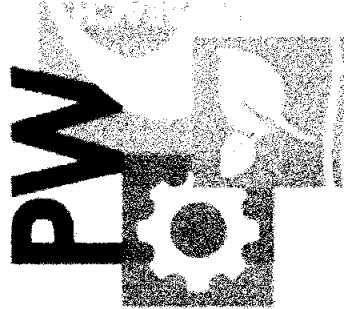
CONSTRUCTION DRAWINGS

Shoemaker Bridge Replacement Temporary Grading and Security Fencing

DRAFT SUBMITTAL - JANUARY 2023



VICINITY MAP
SCALE: NONE



Underground
Service Alert
CALL TOLL FREE
8-1-1



TWO WORKING DAYS BEFORE VOL 09

SHEET INDEX

SHT NO	DWG NO	TITLE
1	T-1	TITLE SHEET
2	L-1	TEMPORARY SECURITY FENCING LAYOUT
3	L-2	TEMPORARY GRADING PLAN - RADAR UNIT AND SOIL/DEBRIS STOCKPILE
4	L-3	
5	L-4	
6	L-5	CONSTRUCTION DETAILS 1 OF 2 - SECURITY FENCING
7	L-6	CONSTRUCTION DETAILS 1 OF 2 - SECURITY FENCING
8	L-7	CONSTRUCTION DETAILS 1 OF 3 - SECURITY FENCING ACCESS GATE

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE GRID BEARING NORTH 51°08'49" EAST BETWEEN CGPS CONTROL STATIONS "0670" & "2054" AS PER RECORDS ON FILE WITH CA-TRANS.

DATUM STATEMENT:

COORDINATES, DISTANCES AND BEARINGS ARE REFERENCED TO THE CALIFORNIA COORDINATE SYSTEM 83, ZONE 5 GRID, NAD 83 (1982), EPOCH 1997.35, US SURVEY FEET.

BENCHMARK:

CA-TRANS 157 - 3063 - 7154"
NAVD 88
ELEV = 9.7212'
NEW BRONZE DISK STAMPED "CALIF DEPT OF TRANSPORTATION, PG-07 5-75-46" SET IN N.W. CORNER OF CATCH BASIN, S.E. Y CORNER OF LOVY'S DRIVE AND PACIFIC COAST HIGHWAY.

CONSTRUCTION DETAILS 1 OF 2 - SECURITY FENCING
CONSTRUCTION DETAILS 1 OF 2 - SECURITY FENCING
CONSTRUCTION DETAILS 1 OF 3 - SECURITY FENCING ACCESS GATE

SHOEMAKER BRIDGE REPLACEMENT
TITLE SHEET

DATE: 1/13/2023
DRAWN BY: [blank]
CHECKED BY: [blank]
DESIGNED BY: [blank]
PROJECT NO: [blank]
SHEET NO: [blank]
SHEET TOTAL: 100



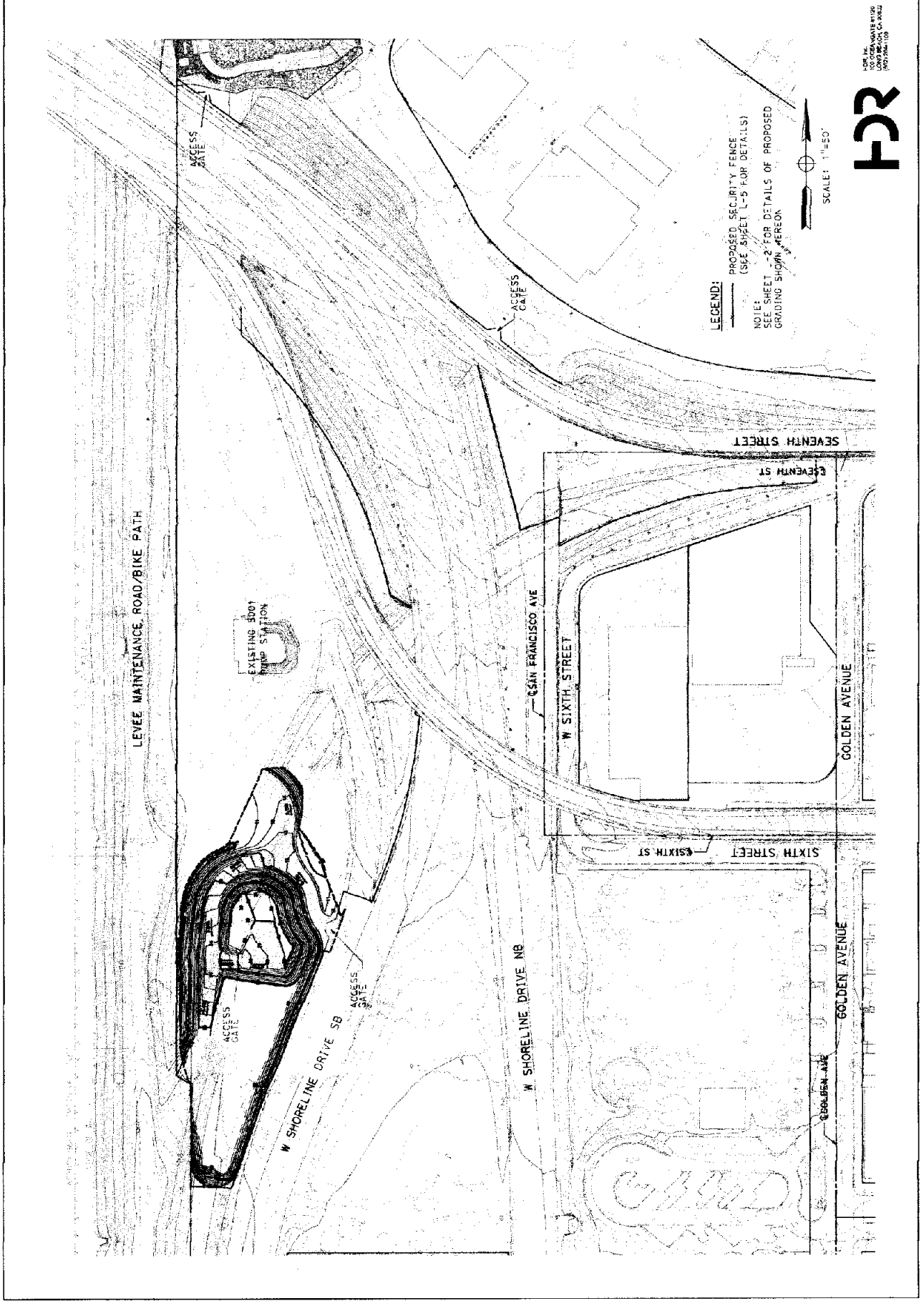
100%
REGISTERED
ENGINEER
CALIFORNIA
NO. 224
LONG BEACH, CA 90801
(562) 434-1111

T-1

JOB NO. XXXX		SHEET		100	
NO. 14-XXXX		SHEET		100	
FIELD BOOK		GRAPHIC SCALE		DATE	
DRAWING CHECK BY:		DESIGN CHECK BY:		DESIGNED BY:	
DATE		SHEET		APPROVAL	
DESCRIPTION		APPROVAL		DESCRIPTION	



**SHOMAKER BRIDGE REPLACEMENT
TEMPORARY SECURITY FENCING LAYOUT**

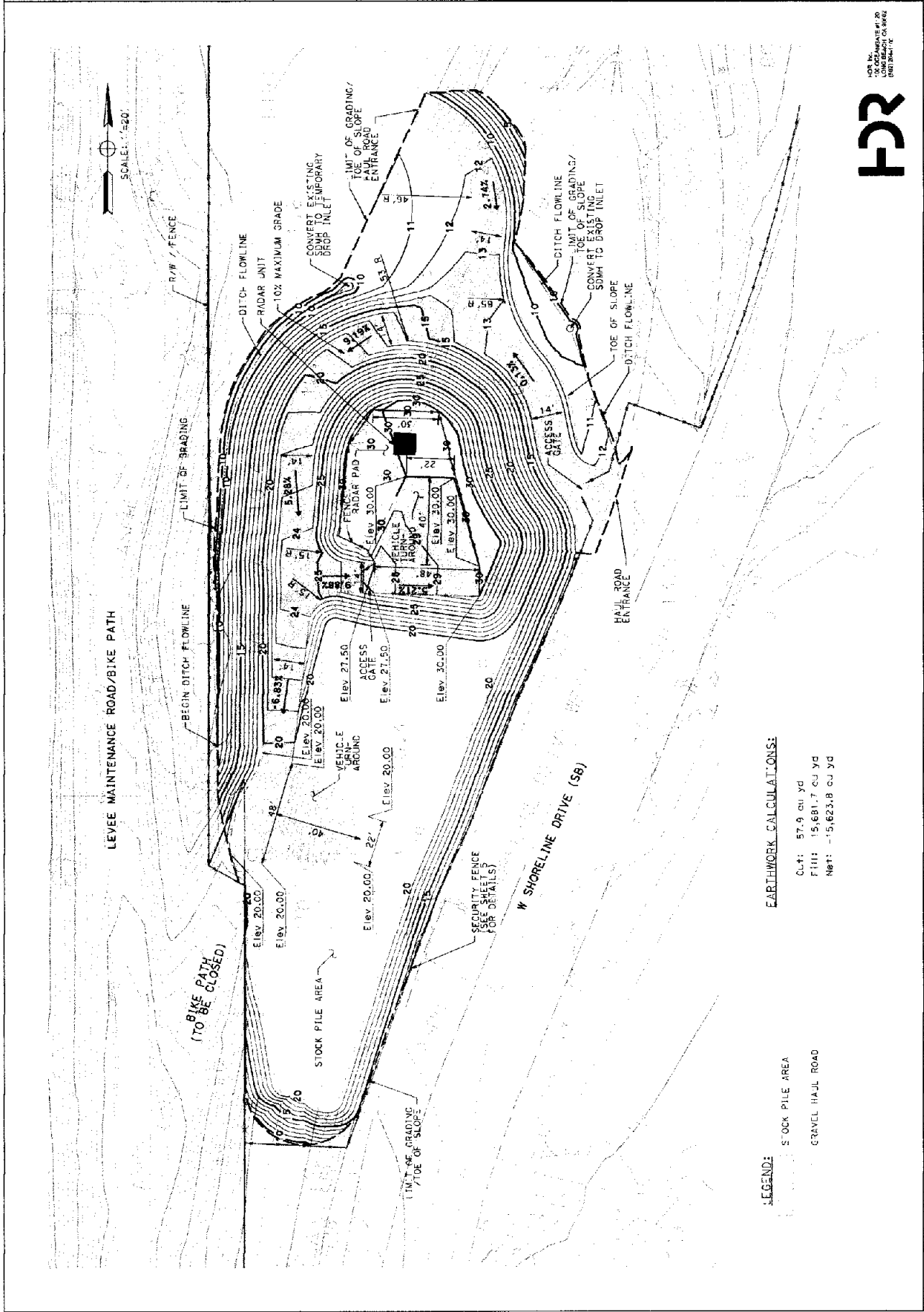


LEGEND:
 PROPOSED SECURITY FENCE
 (SEE SHEET L-5 FOR DETAILS)
 NOTE:
 SEE SHEET -2- FOR DETAILS OF PROPOSED
 GRADING SHOWN HEREON



NO. 14-XXXX
 JOB NO. XXXX
 SHEET 100

L-1




 HDR
 HOK COMPANY
 1000 BROADWAY
 SUITE 2000
 NEW YORK, NY 10018

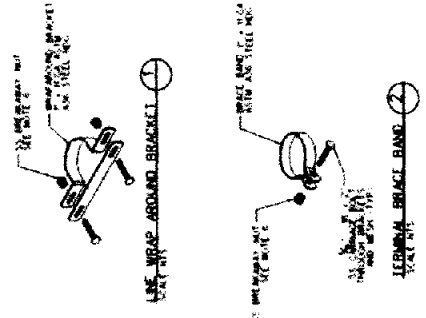
EARTHWORK CALCULATIONS:

CUT: 57.9 cu yd
 FILL: 15,681.7 cu yd
 NET: -15,623.8 cu yd

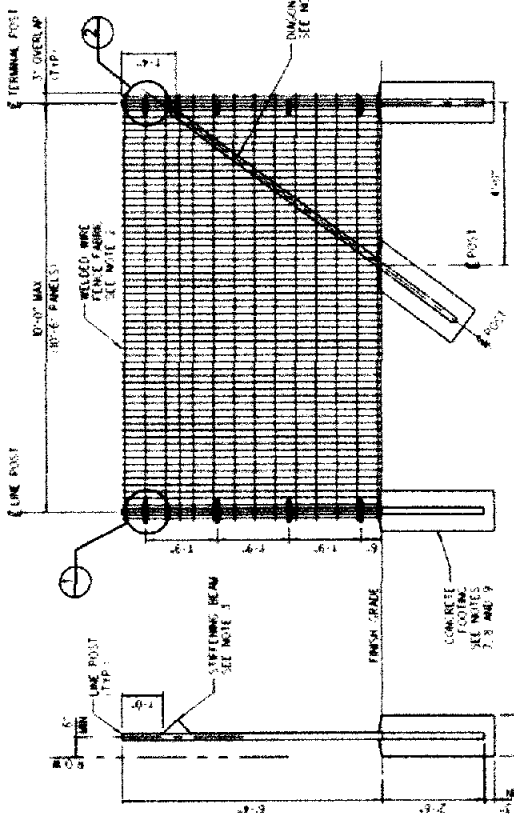
LEGEND:

- STOCK PILE AREA
- GRAVEL HAJL ROAD

SHOEMAKER BRIDGE REPLACEMENT
SECURITY FENCE DETAILS



- NOTES:**
- SEE SPEC FOR FENCE SELECTION CRITERIA
 - WELDED WIRE FENCE FABRIC TO BE #5 GAUGE HARCENED STEEL WIRE WELDED INTO A 2" X 6" RECTANGULAR PATTERN PER ASTM A123 CLASS C1.12 OZ PER SQUARE FOOT
 - HOT DIP GALVANIZED AFTER WELDING
 - TRIANGULAR SHAPED STIFFENING BEAM TO BE PLACED HORIZONTALLY 1'-0"
 - POSTS, RAILS AND STIFFENING BEAM SHALL BE STANDARD WEIGHT SHEOLUE 40
 - GALVANIZED PIPE PER ASTM A53 WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI
 - DIAGONAL BRACING AT 400 FT MAXIMUM SPACING AND AT ALL END, GATE AND CORNER POSTS
 - CONCRETE FOOTINGS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS
 - POST EMBEDMENT AND FOOTING FOR LINE POST SHOWN ON THIS DRAWING POST EMBEDMENT AT GATE POST AND END POSTS TO BE 3'-0" DEEP
 - ALL FRAME POSTS AND BRACE SHALL BE AS PER CHAIN LINK FENCE STANDARD, ESS10E



FRONT VIEW LINE POST

SIDE VIEW LINE POST

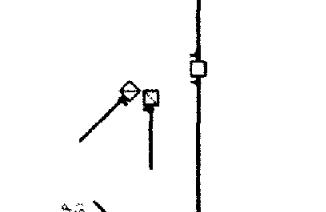
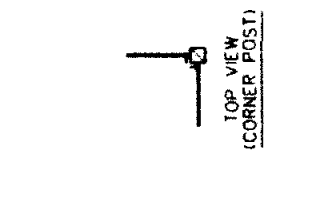
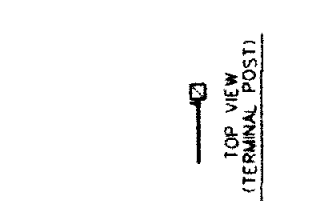
ENGINEERING STANDARDS	DATE: 11/11/10
RIGHT OF WAY FENCING	SCALE: 1/8" = 1'-0"
WELDED WIRE MESH FENCING (TYPE A)	PROJECT: 100
	DATE: 11/11/10



FOR THE
 OCCASIONABLE
 AND
 POLYESTER
 POLYESTER



NO.	DATE	DESCRIPTION
1	11/11/10	ISSUED FOR PERMIT
2	11/11/10	ISSUED FOR PERMIT
3	11/11/10	ISSUED FOR PERMIT
4	11/11/10	ISSUED FOR PERMIT
5	11/11/10	ISSUED FOR PERMIT
6	11/11/10	ISSUED FOR PERMIT
7	11/11/10	ISSUED FOR PERMIT
8	11/11/10	ISSUED FOR PERMIT
9	11/11/10	ISSUED FOR PERMIT
10	11/11/10	ISSUED FOR PERMIT



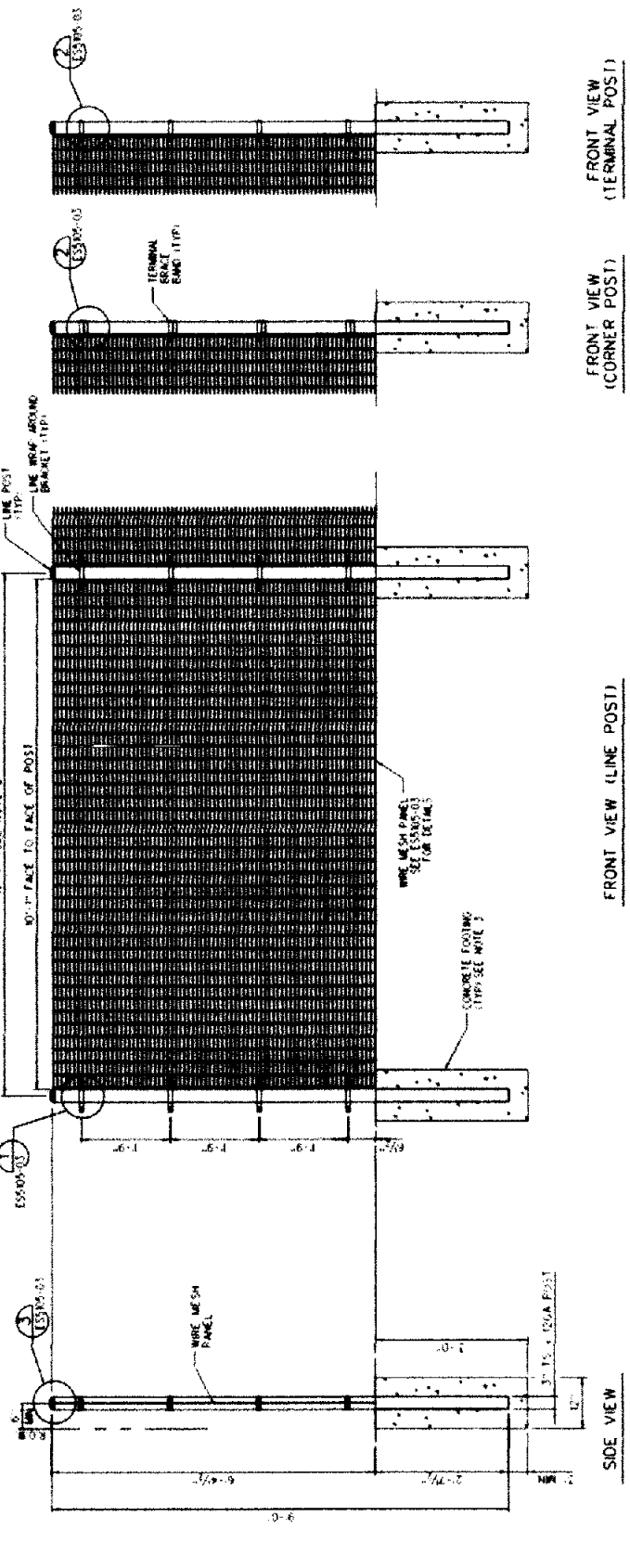
FOR CORNER ANGLES OF 120° TO 150°, OFFSET A 30° TERMINAL POST WITH MINIMAL GAP USING MONOLITHIC CONCRETE PIER. PIER SHALL BE 18" IN DIAMETER. SEE NOTE 4.

30" MAX

LINE POST (TYP)

LINE WRAP AROUND BRACKET (TYP)

- NOTES:**
1. TERMINAL BRACE BAND TO BE USED AT TERMINAL AND CORNER POSTS. STAINK BANDS AS CLOSELY AS POSSIBLE WHERE APPLICABLE.
 2. AT TERMINAL AND CORNER POSTS WHERE SPACING BETWEEN POSTS IS GREATER THAN 10 FEET, VERTICAL WIRE CAN BE CAPTURED BY BRACKET CUT PANEL TO FIT IN FIELD.
 3. PRELIMINARY FOOTING SIZES AND EMBEDMENT ONLY. FOOTING AND EMBEDMENT MAY CHANGE UPON ENGINEERING REVIEW BY WIND LOAD AND SOIL BEARING CONDITIONS.
 4. SQUARE POSTS SHOWN ON PLANS. ROUND POSTS MAY BE USED BUT MUST BE UNIFORM FOR ALL POSTS. A SINGLE ROUND POST WITH TERMINAL BRACE BANDS MAY BE USED IN LIEU OF TWO POSTS AT CORNER POINTS. ALONG FENCE ALIGNMENT POSTS AT CORNER POINTS SHALL BE SQUARE CRITERIA AS SPECIFIED ON THESE STANDARD DRAWINGS.



ENGINEERING STANDARDS

RIGHT OF WAY FENCING

WELDED WIRE MESH FENCING (TYPE B)

METROLINK

MEMBERS OF FORTY-FIVE (45) STATES AND THE DISTRICT OF COLUMBIA

100 METRO DRIVE, SUITE 100, L.A., CA 90001



PREPARED BY: _____

CHECKED BY: _____

DATE: _____

DATE: _____

SCALE: _____

PROJECT: _____

NO. OF SHEETS: _____

SHEET NO.: _____

APPROVED BY: _____

DATE: _____

Annex 1 – Technical Specifications

These are the current technical specifications. However, they can be subject to changes:

Technology	Frequency Modulated Continuous Wave (FMCW)
Frequency	X-Band
Power Output	44 W
Rotation / Scan speed	60 rpm / 1s
Instrumented Range	15 km / 9.3 mi.
Azimuth Coverage	360-degrees
Elevation Coverage	60-degrees
Upmast Dimensions (W x D x H)	1237 x 654 x 1660 mm / 48.7 x 25.7 x 65.35 inch
Upmast Weight (excluding foot)	325 kg / 715 lb
Power	207 - 253 VAC, 50 - 60 Hz*
Power Usage Nominal	700 W
Power Usage Maximum	2750 W
Frequency Options (Hardware limited)	1. 8900 MHz** 2. 9250 MHz** 3. 9650 MHz**
ERP / EIRP	80.4 dBm, 50.4 dBW / 82.4 dBm, 52.4 dBW
10 W/m² Point	3 m / 10 ft safe distance
Detection Range Large Targets	10.0 km / 6.2 mi at 700 m / 2300 ft alt. (-13 dBm ²)
Detection Range Medium Targets	8.0 km / 5.0 mi at 600 m / 1970 alt. (-16 dBm ²)
Detection Range Small Targets	4.0 km / 2.5 mi at 400 m / 1300 ft alt. (-25 dBm ²)
Detection Range Micro Targets	3.3 km / 2.1 mi at 300 m / 980 ft alt. (-30 dBm ²)



Detection Range Large Targets:
10.0 km / 6.2 mi. at 700 m / 2300 ft alt. (-13 dBm²)



Detection Range Medium Targets:
8.0 km / 5.0 mi. at 600 m / 1970 ft alt. (-16 dBm²)



Detection Range Small Targets:
4.0 km / 2.5 mi. at 400 m / 1300 ft alt. (-25 dBm²)

Angular Resolution	1.8°
Angular Accuracy	0.18°
Range Resolution	4.6 m / 15 ft
Range Accuracy	0.5 m / 1.6 ft
Elevation Resolution	2°
Elevation Accuracy	0.2°
IP Rating	IPX6
Operational Ambient Temperature	-32 °C up till +55 °C / -26 °F up till 131°F
Operational Relative Humidity	<95% at 40 °C / 104 °F
Operational Wind Speed	≤17 m/s*** / 38 mph
Idle Wind Speed	≤32 m/s / 72 mph
Operational Vibration	13.2 - 100 Hz, 0.7 g, 2 h.
Operational Height (AMSL)	< 1000 m / < 3280 ft
Number of Cables Sensor to Server	1
Cable Material	PUR-Black
Standard Cable Length	15 m / 50 ft
Maximum Cable Length (optional)	50 m / 164 ft
Breakout Box	Yes, indoor*
Server Rack	24U: 1070 x 600 x 1198 mm / 42.1 x 23.6 x 47.2 inch
Weight	244 kg / 537 lb - depending on auxiliary
Computers	1 Supermicro, 2 Hewlett Packard Enterprise Servers
Uninterruptible Power System (UPS)	Hewlett Packard Enterprise R3000 G5
Weather Station	Airmar 150 WX
Operating System	Long Term Support (LTS) Xubuntu
Core Software	Robin Software Package

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

§ 77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460-1, Notice of Proposed Construction or Alteration. FAA Form 7460-1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460-1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S.

Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177
Fax: (817) 222-5920

Website: <https://oeaaa.faa.gov>

INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enters the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. DO NOT LEAVE BLANK.

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference" DO NOT LEAVE BLANK. NOTE: High Intensity lighting shall be used only for structures over 500' AGL. In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held GPS instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. DO NOT LEAVE BLANK.

ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 17'3" rounds to 17', 17'6" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.

ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 17'3" rounds to 18'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-8747 or via internet at "<http://store.usgs.gov>". If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21.

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g. corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation's and zoning authorities.

Paperwork Reduction Work Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection displays a currently valid OMB Control Number. The OMB control number for this information collection is 2120-0001. Public reporting for this collection of information is estimated to be approximately 19 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are mandatory for anyone proposing construction or alteration that meets the criteria contained in 14 CFR 77. This information is collected to evaluate the effect of proposed construction or alteration on air navigation and is not confidential. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.